

A NEW SPECIES OF NEARCTIC *PERLESTA* (PLECOPTERA: PERLIDAE)
FROM VIRGINIA

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Abstract.—A new species of stonefly from southwestern Virginia is added to the Nearctic *Perlesta*, which presently includes 14 species. *Perlesta teaysia*, new species, is described from the adult male, adult female, egg, and mature nymph. Diagnostic features are supported by illustrations and SEM photomicrographs.

Key Words: *Perlesta*, new species, North America, Nearctic Region, Virginia

Stark (1989) revised and keyed 12 species in the *Perlesta placida* (Hagen) complex. Poulton and Stewart (1991) and Stark and Rhodes (1997) have added two additional species to the Nearctic list.

A distinctive new species of *Perlesta* was reared by the senior author in 1979. However, not until recently did the adult male become available with the extruded penis tube and sac for a comparative description. The new species is related to *P. frisoni* Banks in sharing the characters of the penis lacking a caecum, and tergum ten with two elevated sensilla basiconica patches.

The Holotype will be deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM). Paratypes will be deposited in the following museums and individual collections: Bill P. Stark, Clinton, Mississippi (BPS), C. P. Gillette Museum of Arthropod Diversity, Colorado State University (CSU), Monte L. Bean Museum, Brigham Young University (BYU), and Ralph F.

Kirchner (RFK, Huntington, West Virginia).

Perlesta teaysia Kirchner and
Kondratieff, new species
(Figs. 1-10)

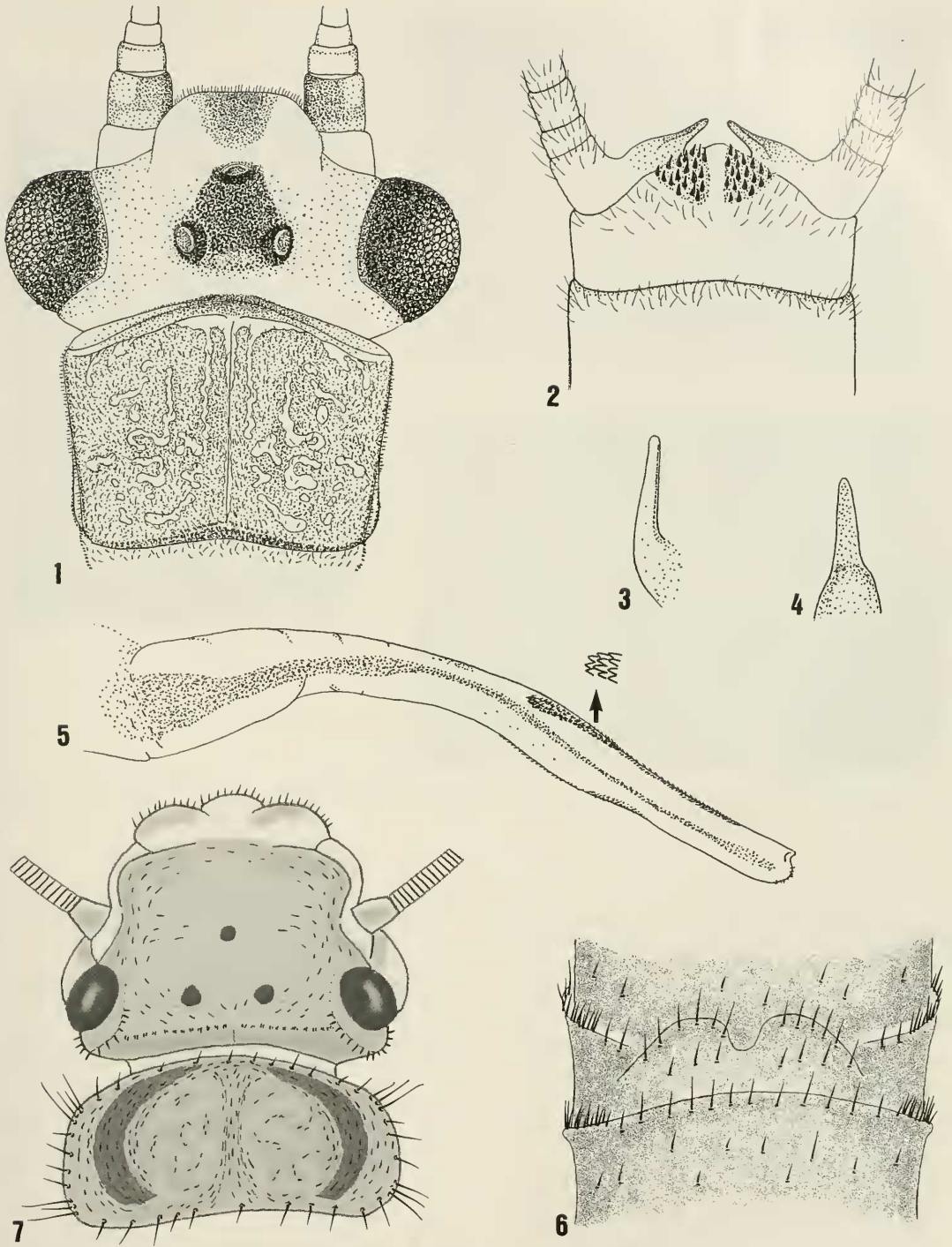
Male.—Forewing length 7.5-8.5 mm. General color light yellow in life, pale yellow in alcohol. Head with a brown patch over ocellar triangle, with a light brown spot near anterior margin (Fig. 1). Pronotum brown. Wings pale, costal margin of forewing pale. Femora with dorsal margin brown. Tergum 10 with two elevated patches of 19 to 21 brown sensilla basiconica, separated along mid-line of tergum (Figs. 2, 8, 9). Paraprocts straight, moderately long without a tooth (Figs. 3, 4). Penis tube and sac long and slender; dorsal patch pale and inconspicuous; caecum absent (Fig. 5).

Female.—Forewing length 10-11 mm. Color pattern similar to male. Subgenital plate with a prominent U-shaped notch, outer lobes rounded (Fig. 6).

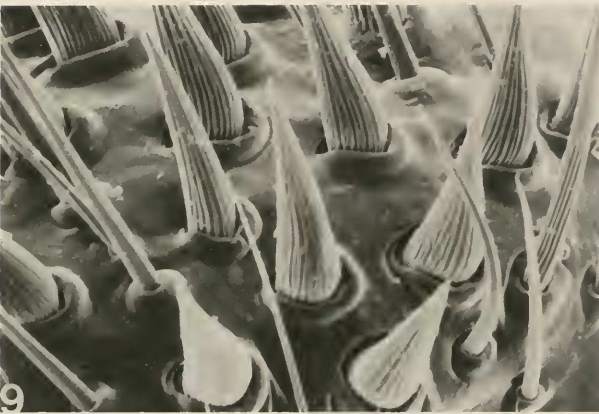
Egg.—Length ca. 0.37 mm, width ca. 0.29. Collar short, ca. 0.025 high, ca. 0.073 wide. Chorion smooth (Fig. 10).

Nymph.—Body length 8-10 mm. Gen-

¹ The views of the author do not purport to reflect the position of the Department of the Army or the Department of Defense.



Figs. 1-7. *Perlesta teaysia*. 1, Adult head and pronotum. 2, Male terminalia, dorsal. 3, Paraproct, lateral. 4, Paraproct, caudal. 5, Penis, lateral (arrow indicates penis armature). 6, Female subgenital plate, ventral. 7, Nymphal head and pronotum.



Figs. 8–10. *Perlesta teaysia*, scanning electron photomicrographs. 8, Male terminalia, dorsal, 372 \times . 9, Sensilla basiconica, 10th tergum, male, 1260 \times . 10, Egg, 238 \times .

eral color yellow brown; body clothed with appressed brown hairs. Head without transverse dark band crossing ocelli (Fig. 7). Occipital setal row approaches ecdysial suture. Pronotal disk with “parentheses-like” dark brown areas (Fig. 7). Abdominal terga yellow brown; intercalary bristles without dark sockets.

Types.—Holotype δ , Virginia: Wythe County, Reed Creek of New River, U.S. Route 11 bridge, 3.2 km West of Wytheville, 23 July 1996, R. F. Kirchner and B. C. Kondratieff (USNM). Paratypes: same data as holotype, 6 δ , 17 η (CSU); same data as holotype except, 11 July 1975, R. F. Kirchner 1 δ , 7 η (RFK); same data as holotype except 21 δ , 5 η , (reared), 7 July 1979, R. F. Kirchner (BPS, BYU, RFK).

Additional material examined.—13 nymphs, same data as holotype except, 7 July 1979, R. F. Kirchner.

Diagnosis.—The adult male of *P. teaysia* will key to couplet 3 in Stark (1989), appearing most similar to *P. frisoni*. Both species have conspicuous elevated patches of sensilla basiconica on tergum 10 (Figs. 2, 8, 9). However, the paraprocts of *P. teaysia* are longer and lack a mesal tooth (Figs. 3, 4; see Stark 1989, Fig. 52). The adult female subgenital plate of *P. frisoni* is triangular in shape and has a V-shaped notch (Stark 1989), while the subgenital plate of *P. teaysia* is rounded in outline and has a U-shaped notch (Fig. 6).

Etymology.—The specific epithet refers to the ancient Teays River system of the

Pliocene. The present Kanawha-New River drainage in North Carolina, Virginia, and West Virginia is considered as a remnant of the upper Teays River. Reed Creek flows into the New River 22 km East of Wytheville, Virginia.

Remarks.—Stark (1989) reported *P. decipiens* (Walsh), *P. frisoni* and *P. placida* from Virginia. The distribution of *P. frisoni* is apparently limited to the older Appalachians Mountains (Blue Ridge Physiographic Province) of North Carolina, Tennessee and Virginia. The following species of stoneflies have been collected at the type locality: *Allocapnia granulata* (Claassen), *A. loshada* Ricker, *A. nivicola* (Fitch), *A. rickeri* Frison, *Prostoia completa* (Walker), *Strophopteryx fasciata* (Burmeister), *Taeniopteryx burksi* Ricker and Ross, *T. maura* (Pictet), *Acroneturia abnormis* (Newman),

A. filicis Frison, *Neoperla clymene* (Newman), *N. occipitalis* (Pictet), *Paragnetina media* (Walker), *Diploperla morgani* Kondratieff and Voshell, *Helopicus subvarians* (Banks), and *Isoperla signata* (Banks).

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